

CLAIMS

1. A method of characterizing a number of potential financial benefits to a facility, each potential financial benefit resulting from the potential performance of one of a number of groups of possible activities on the facility, the method comprising:

determining a number of goals, the achievement or partial achievement of which would affect a financial status of the facility;

identifying for each goal a corresponding group of activities, each identified activity affecting in some fashion achievement of the goal; and

for each group of activities, determining a probability distribution on net present savings that corresponds with implementation of the group of activities.

2. The method of Claim 1 wherein said determining a probability distribution on net present savings that corresponds with implementation of the group of activities comprises:

determining a baseline of activity with regard to the facility;

identifying a number of operational parameters related to the facility that have an effect on the financial status of the facility, each operational parameter having an uncertainty;

for each operational parameter, characterizing the operational parameter based upon an assumption of the baseline activity, the characterized operational parameter having an uncertainty;

for each operational parameter, characterizing the operational parameter based upon an assumption of implementation of the group of activities, the characterized operational parameter having an uncertainty;

performing a plurality of probabilistic simulation sampling trials on the operational parameters that were characterized based upon the assumption of baseline activity and on the operational parameters that were characterized based upon the assumption of implementation of the group of activities;

determining a net present savings amount for each trial; and

compiling the net present savings amounts from all of the trials corresponding with the group of activities to form the probability distribution on net present savings that corresponds with implementation of the group of activities.

3. The method of Claim 2 wherein said performing a plurality of probabilistic simulation sampling trials includes performing a plurality of Monte Carlo trials.

4. The method of Claim 3 wherein each said Monte Carlo trial comprises:

for each operational parameter that was characterized based upon the assumption of baseline activity, generating a random number, the random number determining a baseline value for the operational parameter within its uncertainty;

calculating a baseline financial effect on the financial status of the facility on the basis of the baseline operational parameter values;

discounting the baseline financial effect to achieve a present day baseline value;

for each operational parameter that was characterized based upon the assumption of implementation of the group of activities, generating a random number, the random number determining a strategy value for the operational parameter within its range of uncertainty;

calculating a strategy financial effect on the financial status of the facility on the basis of the strategy operational parameter values;

discounting the strategy financial effect to a present day strategy value; and

subtracting the present day strategy value from the present day baseline value to determine the net present savings amount for the trial.

5. The method of Claim 4 wherein said characterizing the operational parameter based upon an assumption includes characterizing the operational parameter with a probability density function.

6. The method of Claim 5 wherein, for each operational parameter, the random numbers generated over the course of the plurality of Monte Carlo trials result in a set of values for the operational parameter that are distributed in accordance with the probability density function of the operational parameter.

7. The method of Claim 2 wherein at least one of the operational parameters with its uncertainty is also known to vary with time.

8. The method of Claim 7 wherein said at least one of the operational parameters is an equipment failure rate that is known to vary with time.

9. The method of Claim 1 wherein said identifying for each goal a corresponding group of activities includes identifying for each goal a set of activities which together comprise a strategy for achieving the corresponding goal.

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10. The method of Claim 9 wherein the activities of at least one of the sets of activities together have a synergy.